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STANFORD UNIVERSITY CALIFORNIA.

S
Insect Control
Deschutes.

First Report
Statistical Summary
of
1924 Western Pine Beetle Losses
in the
Yellow Pine of the
Metolius Region.
Deschutes National Forest
April, 1926.

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Table of Contents

	<u>Page</u>
Foreword.....	1
Section 21, T. 12 S., R. 9 E.....	4
Section 33, T. 12 S., R. 9 E.....	5
Section 9, T. 13 S., R. 9 E.....	6
Section 27, T. 13 S., R. 10 E.....	7
Section 21, T. 13 S., R. 9 E.....	8
Section 24, T. 13 S., R. 9 E.....	9
Section 32, T. 13 S., R. 9 E.....	10
Section 12, T. 14 S., R. 8 E.....	11
Section 16, T. 14 S., R. 9 E.....	12
Section 26, T. 14 S., R. 9 E.....	13
Section 32, T. 14 S., R. 9 E.....	14
Section 14, T. 15 S., R. 9 E.....	15
Section 34, T. 15 S., R. 9 E.....	16
Summary	17
Map	

Foreword

The data in this report were secured by a pine beetle survey made in May and June, 1925 by the following crew:-

A. D. Cannavina - spotter.
M. W. Stone - spotter.
Charles Zumbrun and
W. J. Perry - compassmen.

Thirteen full sections were chosen as being representative of the western pine beetle (Dendroctonus brevicornis) epidemic in the western yellow pine (Pinus ponderosa) then in progress. The region for which these 13 sections were chosen as representative is that portion of the north end of the Deschutes National Forest and adjoining private lands which extend from the south boundary of T. 15 S., R. 9 E. (in the vicinity of Pole Creek) to the northern boundary of the Forest which is marked by Jefferson Creek. The boundaries of this area are shown on the map at the end of this report.

The diameters were secured by the use of steel diameter tapes. No log lengths were taken, since the various sections had been covered by Forest Service cruises. With these cruises as a basis, the average number of logs for trees of different diameters on the various sections can be more

accurately determined than to place dependency on guesses made by the spotters.

Eight strips, ten chains in width, were run through each section. The compassman ran his compass line with a Forest Service standard compass through the middle of each strip, and the two spotters each spotted a strip five chains wide on each side of the compassman. The compassman paced the distances and checked up on the section lines. On a scale of four inches to the mile, the compassman mapped the spotted trees and such features as roads, streams, fences, etc.

The spotters blazed and numbered the yellow pine trees killed by insects in 1924, on at least two sides. The differentiation between summer and winter brood trees was made and, in addition, the following data were secured for each tree:-

- Primary insect.
- Stages of insect present.
- Foliage phase.
- Diameter at breast height.
- Date of spotting.
- Name of spotter.
- Miscellaneous data such as woodpecker work,
presence or absence of pitch tubes, etc.

The purposes of this survey and the subsequent one which was made in September, 1925 are outlined in Mr. Miller's memorandum of April 25 and my memorandum of June 18, 1925. These memoranda also include further descriptions of the

manner in which the loss data were taken and a statement regarding the mortality data which were secured immediately after the completion of the beetle survey in May and June, 1925.

The map at the end of this report shows the boundaries of the area covered by the survey. The colored sections were cruised one hundred per cent and the 1924 loss figures on them are included in this report.

On the page preceding the map, there is a summary of the 1924 loss on the thirteen cruised sections differentiated according to the number of summer trees and winter trees.

1924 Loss - Number of Trees
Section 21, T. 12 S., R. 9 E.
General location - North of Helsing

Cruised May 28 and 29, 1925

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
16	1	
17	1	1
18	1	
20	2	1
21	2	
22		1
23	2	
25	2	
26	2	
27		1
28	1	
29	1	
30	1	
31	2	
32	3	1
33	2	
35	1	
42	1	
45	1	1

① ← Red number corresponds to legend on map at end of report.

Summer Trees - 26
 Winter Trees - 6
 32

1924 Loss - Number of Trees
Section 33, T. 12 S., R. 9 E.
General location - West of Heising's.

Cruised May 27 and 28, 1925

(2)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12	1	1
13	1	
15	1	
17	2	1
18	3	
19		1
20	1	3
21	2	
22	1	2
23	1	
24	3	2
25	1	4
26	1	2
27		1
28	1	1
29	1	2
30	2	4
31		1
32	1	1
33	2	
35	1	
36		1
37		2
39	1	
40		1
41	1	
45	1	
48	1	

Summer Trees - 30
Winter Trees - 30
60

→ Recruised September 28 and 29, 1925. See page 3 of
Second Report

1924 Loss - Number of Trees
Section 9, T. 13 S., R. 9 E.
General location - North of Hansen's
Cruised May 25 and 26, 1925

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12		7
13	1	2
14		2
16	1	2
17	1	1
18	3	4
19	4	4
20	3	6
21	1	2
22	3	3
23	3	4
24	4	8
25	4	3
26	5	2
27	1	2
28		4
29	1	3
30	4	2
32	3	1
33	1	1
34	2	
37	1	
38	1	
39	1	
40		1
41	1	
45	1	
49	1	

Summer trees - 51
 Winter trees - 64
115

1924 Loss - Number of Trees
Section 27, T. 13 S., R. 10 E.
General Location - Northeast of Black Butte
 Cruised June 22 and 23, 1925

(7)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12	5	12
13	1	7
14		7
15	4	8
16	3	7
17	3	8
18	5	6
19	3	4
20	3	5
21	3	5
22	3	5
23	5	15
24	2	6
25	1	2
26	1	1
27		2
28	1	1
29	2	2
30	1	
31		1
32	1	
33	1	
35		1
36	1	
38	1	
40		1

Summer Trees	-	50
Winter Trees	-	106
		<u>156</u>

→ Recruised September 26 and 27, 1925. See page 4 of Second Report

1924 Loss - Number of Trees
Section 21, T. 13 S., R. 9 E.
General location - 1 Mile South of Hansen's

Cruised June 2 and 3, 1925

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12		2
13	2	1
14		5
15		3
16		1
17	3	3
18	1	4
19	4	5
20		4
21		3
22	1	3
23	1	3
24		5
25	1	1
26	1	1
27	2	3
28	1	5
30	1	4
31	1	3
32	1	
33		2
34		2
36		2
38		2
40	1	
42	1	

(4)

Summer Trees	-	22
Winter Trees	-	67
		<u>89</u>

→ Recruised September 24 and 25, 1925. See page 5 of Second Report

1924 Loss - Number of Trees
Section 24, T. 13 S., R. 9 E.
General Location - Northeast of Black Butte

Cruised June 3 and 4, 1925

(5)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12	2	1
13		1
14	4	3
15	1	5
16	4	6
17	2	4
18	4	5
19	1	4
20	1	7
21	2	2
22	2	1
23		4
24	3	4
25	2	1
26	5	4
28	1	3
29	1	1
30	1	
31		2
33	2	1
39	1	
41	1	1

Summer Trees - 40
 Winter Trees - 60
100

~~T. 13 S., R. 9 E., 1925. 2nd page~~

~~Black Butte~~

1924 Loss - Number of Trees
Section 32, T. 13 S., R. 9 E.
General Location - West of Black Butte.

Cruised June 1 and 2, 1925

(6)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>	
12	1	2	
13	3		
15		1	
16		1	
17		1	
18	2	1	
19	2		
20	1		
21	2		
23	5	2	
24		1	
25	3	5	
26	3	1	
27	1	4	
28		2	
29		3	
30		1	
31	1	1	
32		1	
33	2	2	
34	1		Summer trees - 29
35		2	Winter Trees - 34
36	1	1	<u>63</u>
38		1	
40	1		
43		1	

→ Recruised October 1 and 2, 1925. See page 6 of Second Report

1924 Loss - Number of Trees
Section 12, T. 14 S., R. 8 E.
General Location - Cache Creek

Cruised June 8 and 9, 1925

(8)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12	2	2
13	2	4
14	2	4
15	6	3
16	5	7
17	4	7
18	4	6
19	9	5
20	7	6
21	9	9
22	3	8
23	6	9
24	8	6
25	3	4
26	2	4
27		5
28	3	6
29	3	7
30	1	
31	2	5
32	1	5
33		1
34	1	1
35	1	
37	2	
38		1
40	1	

Summer trees	-	87
Winter trees	-	<u>115</u>
		202

→ Recruised September 30 and October 1, 1925. See page 7 of Second Report

1924 Loss - Number of Trees
Section 16, T. 14 S., R. 9 E.
General Loc tion - South of Black Butte
and South of Black Butte Ranch.

Cruised June 5 and 6, 1925

(9)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>	
12		1	
13	2	2	
14	3	5	
15	2	2	
16	2	3	
17	5	8	
18	2	6	
19	1	4	
20	2	7	
21	2	5	
22	3	7	
23	2	6	
24	1	4	
25	1	3	
26	5	6	
27	2	8	
28	1	4	
29		1	
30	2	1	
31		2	
32		2	Summer trees - 40
33		1	Winter trees - 91
34		1	131
35		1	
36	1		
37		1	
43	1		

→ Recruised September 25 and 26, 1925. See page 8 of Second Report


1924 Loss - Number of Trees
Section 26, T. 14 S., R. 9 E.
General Location - Southeast of Graham Place

Cruised June 10 and 11, 1925

(10)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12	1	3
13		3
14	2	4
15	2	
16	1	6
17	2	4
18	3	3
19		7
20	3	4
21	3	4
22	1	6
23	3	7
24	3	2
25		2
26	3	4
27		2
28	1	3
29	2	2
30	1	1
31	3	2
32	1	1
33	1	1
34	2	
35		1
38	1	
41	1	
46	1	

Summer trees	-	41
Winter trees	-	72
		<u>113</u>

 Recruited September 29, 1925. See page 9 7) Second Report

1924 Loss - Number of Trees
Section 32, T. 14 S., R. 9 E.
General Location - Vicinity of Four Mile Butte

Cruised June 12, 13 and 15, 1925

(11)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>	
12	1	3	
13		1	
14	1	2	
15		2	
16	3	4	
17		5	
18	1	5	
19	2	5	
20	1	4	
21	2	6	
22	1	4	
23	1	5	
24	2	6	
25		7	
26	1	2	
27	2	7	
28	2		
29	1	2	
30	1	1	
31		1	
32	1	2	
33	3		
34		2	
35	1	2	Summer trees - 32
36		4	Winter trees - 85
37	1	1	<u>117</u>
38	1		
39	1		
41	2		
42		1	
43		1	

→ Recruised October 3, 1925. See page 10 of Second Report

1924 Loss - Number of Trees
Section 14, T. 15 S., R. 9 E.
General Location - 1 1/4 Miles Southeast of
Sisters Ranger Station

Cruised June 16, 1925

(12)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>		
12	1	3		
13	1	2		
14	1	3		
15		2		
16		2		
17	1			
18		1		
19	1	2		
20	1	5		
21	1	2		
22		1		
23	2	1		
24	1	1		
25		1		
26	1	4		
27		1		
28		2		
29		1		
30		1		
31	4			
32		2	Summer trees -	22
34	2	1	Winter trees -	42
37		1		<u>64</u>
40	1			
41		1		
43	1			
44	2			
45	1	1		
48		1		

1924 Loss - Number of Trees
Section 34, T. 15 S., R. 9 E.
General Location - Near Pole Creek Cow Camp.

Cruised June 17, 1925

(13)

<u>Diameter</u>	<u>Summer</u>	<u>Winter</u>
12		2
13	2	
14	3	2
15	1	3
16	1	2
17		4
18	2	
19		2
20	2	
21	4	
22	1	6
23	1	2
24	3	1
25		2
26		3
27	1	1
29	2	1
30		1
31		1
33		1
35	1	
37		2

Summer trees	-	24
Winter trees	-	<u>36</u>
		60

Summary
1924 Beetle Loss
Number of Trees

<u>Map No.</u>	<u>Section</u>	<u>Summer Trees</u>	<u>Winter Trees</u>	<u>Total</u>
1	Section 21, T. 12 S., R. 9 E.	26	6	32
2	Section 33, T. 12 S., R. 9 E.	30	30	60
3	Section 9, T. 13 S., R. 9 E.	51	64	115
7	Section 27, T. 13 S., R. 10 E.	50	106	156
4	Section 21, T. 13 S., R. 9 E.	22	67	89
5	Section 24, T. 13 S., R. 9 E.	40	60	100
6	Section 32, T. 13 S., R. 9 E.	29	34	63
8	Section 12, T. 14 S., R. 8 E.	87	115	202
9	Section 16, T. 14 S., R. 9 E.	40	91	131
10	Section 26, T. 14 S., R. 9 E.	41	72	113
11	Section 32, T. 14 S., R. 9 E.	32	85	117
12	Section 14, T. 15 S., R. 9 E.	22	42	64
13	Section 24, T. 15 S., R. 9 E.	24	36	60
Average		38	62	100

MAP LEGEND



Boundary - Epidemic infestation in yellow pine.
Boundary of Deschutes National Forest
Sections cruised once (May-June, 1925).
Sections cruised twice (May-June, and September, 1925).

Section Designations.

- T. 12 S., R. 9 E.
 - 1 - Section 21
 - 2 - Section 33
- T. 13 S., R. 9 E.
 - 3 - Section 9
 - 4 - Section 21
 - 5 - Section 24
 - 6 - Section 32
- T. 13 S., R. 10 E.
 - 7 - Section 27
- T. 14 S., R. 8 E.
 - 8 - Section 12
- T. 14 S., R. 9 E.
 - 9 - Section 16
 - 10 - Section 26
 - 11 - Section 32
- T. 15 S., R. 9 E.
 - 12 - Section 14
 - 13 - Section 34.

